

# **A Walk in the School Woods:**

## **An Action Research Project**

**By Sue Barry**

### **Introduction and Background**

In Rachel Carson's classic book about sharing nature with children, The Sense of Wonder; she talks about the power of the natural world to provide "sources of strength" that can sustain the human spirit and foster resilience for living. She believed that spending time outdoors as a child was more than "a pleasant way to pass the time", and was something "much deeper" and more "significant". In her book she states that "whatever the vexations or concerns of their personal lives, their thoughts can find paths that lead to inner contentment and to renewed excitement in living" She also goes on to say that "there is something infinitely healing in the repeated refrains of nature..."

Over the course of being an elementary school counselor for many years, I have had repeated discussions with the environmental teacher, Georgia Gomez-Ibanez (known to students as Mrs. G-I), at Cambridge Elementary school where we worked. We would often theorize about what kinds of educational practices could enhance resiliency in children and give them the skills they needed to cope with life's stressors and the demands of growing up. My discussions with Georgia have had many recurring themes due to our like-minded interests and mutual concern for children's healthy development. Often among them were the themes of nature, environmental stewardship, resiliency, behavior management and social skills. We often talked about the importance of nature as an inextricable component of human existence, and we contemplated how a lack of exposure or connection to nature impacts children's overall well-being. When the opportunity presented itself to do an Action Research project at our school, it gave us

the opportunity to refine our ideas and interests into a plan that could start defining an educational practice that could be used to benefit the children in our school. The wooded area on our elementary school grounds was a wonderful setting to use for observing whether nature could be used to facilitate positive changes in student behavior and/or achievement in the classroom.

The aim of this study then was to have an adult mentor (who would be Mrs. G-I) take individual students for a walk in the school woods on a regular basis. This was started at the beginning of the 2010/2011 school year and continued through May of 2011. Students were taken out approximately twice weekly. Concessions had to be made for rain, dangerously cold weather, illness or other school activities that needed to take precedence. But overall, the walks were scheduled as a regular part of each student's school routine. Our objective was to gather data from teachers to see if they would observe any change in a student's behavior or performance in the classroom following the walk. Our assumption was that students might be calmer or might be able to follow classroom instructions better. We also wanted to gather student data about their prior relationship with nature. The assumption there being that, we would observe more or less improvement in the classroom goals in relation to their self-reported views of nature. Finally, the adult mentor would document anecdotal information describing students' comments, behaviors and reactions that could be used to discover those themes that we assumed were integral to showing that there is something more to nature that benefits children beyond being given the opportunity to get a break from the classroom and be outdoors.

Cambridge Elementary School is located in Cambridge, Wisconsin; a small rural community in the south central part of the State of Wisconsin, approximately 30 minutes from the State Capitol in Madison. The community has a population of approximately 1,101 people and is surrounded by farmland. The total enrollment at the Elementary School is 400 students, from K4 - grade 5. The majority of students are Caucasian.



Cambridge Elementary School's woods used to be at the edge of a big farm field until the school was built in 1997. Over the years trails have been planned, and been maintained by the Environmental Club led by Mrs. G-I. Many restoration projects and environmental learning activities have been taken on by elementary grades. The woods is unusually interesting because it contains two distinct woodland communities. One is a dry deciduous Oak, Hickory, and Black Cherry community typical of Southern Wisconsin. Within this woods is a wet woodland community in and around an ephemeral pond. It is one of the rarest of Wisconsin plant communities. The trees around this pond are Black Willow and Silver Maple. In all, the woods holds nine acres of trees, pond, shrubs, and many species of flowering plants, fungi, birds, mammals, reptiles, amphibians and insects available for student learning and discovery. (See the map of woods attached.)

### ***Question Formulation***

The basis of this action research project has grown from different observations and surrounding questions as a result of taking children outside for brief periods during the school day. There was an instinctive belief among teachers and other educational staff that this time outdoors could be a beneficial intervention for certain students. It had already been a past practice at our school and felt like a natural and positive way to work with students. The majority of students responded well to this intervention and teachers often had a subjective sense that this practice could help "turn things around" for a student who was struggling with school expectations.

If we wanted to look more closely at this, and understand the results we were getting we needed answers to whether time outdoors just provided a mental break and refreshment or whether a connection with nature was more integral to cognitive and psychological well-being. We wanted to think beyond common assumptions like “children just need to burn off extra energy”. We wanted to think more about the role of the adult who was providing the one-on-one attention during these walks. We wanted to start exploring some of the answers behind our strong belief that nature was healing and that children really needed it to be healthy human beings.

As a starting point in our search for answers, themes and clarity with respect to nature’s ability to enhance student learning, we developed a question and a letter of explanation to share with the teaching staff. The intent of this letter was to explain the suggested intervention and invite teachers to have their students participate if they thought this could benefit their student either academically or behaviorally. The question we were investigating was “Can time outdoors in nature help at-risk students to moderate their behavior and improve their time on-task in the classroom?” We did not define “at-risk” for the teachers or give any other guidelines about what other qualities the student should have. This was left to the individual teacher’s judgment and the data we planned to collect would be based on the teacher’s subjective impression. Nine teachers responded to the letter and this resulted in a sample of 13 students for the action research project, 11 boys and 2 girls from First through Fifth grades. (see letter attached)

### ***Review of the Literature***

While looking for research around the topics about nature and its connection to childrens’ psychological and cognitive development, and the role of the adult mentor in facilitating a child’s engagement with the natural world, I found some studies that gave validation to the intervention we were implementing.

One study showed that the effects of a green environment surrounding children’s

living spaces played a more significant role in their cognitive functioning than had been contemplated in the past (Wells, 2000). Earlier research had only looked at housing quality as a principle factor in child development. Wells found a significant difference in cognitive functioning for children who had green spaces in view outside their residence, compared to those who didn't. Children who had the most natural elements outside their home also had the greatest ability to pay attention. This would seem to support our assumption that students would be more on-task in the classroom after walking in nature.

Another study showed that natural areas outside schools and homes fostered resilience in children. ( Evans, Wells, 2003). Where the previous study was done in an urban area, this study took 337 rural children in grades 3-5 and used standardized indicators to measure both their stress level and their feelings of self-worth. It was shown that nearby nature appears to buffer life stress and have a protective factor for self-worth. The protective factors of nature were the strongest for the most vulnerable children – those experiencing the most life stressors. This supported our assumption that “at-risk” students should be included in our student sample.

Many researchers have studied the neurological condition of AttentionDeficit/Hyperactivity Disorder in children, searching for possible Treatments .One such study focused on the “green advantage” as a natural treatment for ADHD (Kuo,Taylor,2004).

The aspect of this study that is most supportive of our “walking in the woods” study, is that the ADHD symptoms were shown to be the most improved after exposure to the greenest of settings. A follow-up to this study compared three different types of outdoor settings. Characteristics of the walks were controlled for time of day, time of week, walking guide and walking pace. Children’s performance measured significantly better after walking in the greenest of settings. The common characteristics of outdoor settings did not prove to provide an equal advantage to children who needed to burn off energy. The greenest setting provided something more. Although our “walking in the woods” study didn’t specifically target ADHD symptoms, it has been found that the common symptoms of “attention fatigue” that are experienced by everyone, are very similar to ADHD symptoms, in that exposure to natural views can have the same restoring effect, much like a mini-mind-vacation.

Natural play areas for children have been decreasing rapidly in recent years due to cultural changes and land development. Yet research evidence continues to increase showing the wide number of benefits that nature affords to children (White,2004). Schools, where students spend 40 to 50 hours each week, can play an increasingly greater role in helping children reap the rewards that will lead to even healthier growth and development. However, blacktop areas with structural play equipment do not qualify as natural play areas. As described in White’s article, the components of a natural play area include; “trees, bushes and flowers, creatures in ponds, butterflies and bugs, diversity of color, textures and materials, ways to experience changing seasons, wind, light, sounds and weather, structures and

materials that can be changed - actually, or in their imaginations”. Thus we chose Cambridge Elementary School’s woods as the setting for this outdoor experiment, rather than taking children for walks on the playground, the soccer field, or sidewalk.

The last important piece of our design for using the school woods to enhance students overall well-being is the role of the adult mentor. Research has shown that the adult role model strengthens the child’s connection to the environment in at least two important ways ( Chawla, 2006 ). One is the attention that the adult pays to their the natural surroundings. When the adult and child attend to things jointly, alot of perceptual learning takes place. When Mrs. G-I notices a flock of geese migrating overhead, it facilitates the child to become more engaged in their surroundings. This informal way of teaching is how much of early learning takes place. The adult role model is not there so much to teach the child about nature, but to experience it with them. This is not to say that the child doesn’t need the adult mentor to name or identify some of what they are observing. But it is attending to things together that teaches children how to eventually learn on their own. It gives them the self-confidence to start understanding the world and their own capabilities. The adult mentor’s attention is providing the child access to the world around them.

Chawla (2006) also discovered that second to experiencing nature itself, people identified significant others as being instrumental in fostering a connection with nature that stayed with them throughout their lives and they could draw upon for

sources of strength just as Rachel Carson had described. Besides parents or other family members, teachers and environmental club leaders were also cited as influential. Chawla states that the very fact that the significant adult took the child to a place they care about, shows they also care about the child. Mrs. G-I is well known by all of Cambridge Elementary's students for the many environmental activities and teaching she has done throughout all grade levels. She has been working since the school was built in 1998, to make the school woods ever more accessible to our students. Students identify her as a steward of all that is natural on our school grounds. There couldn't be a more desirable option than to have Mrs. G-I as your guide.

### **Data Collection and Instruments**



The data for this Action Research Project came primarily from three different sources; the teachers involved, the student sample, and the adult mentor. Descriptions of each instrument and method follow.

#### Student Sample and Time in School Woods

The length of this study was 27 weeks and ran from mid-September until early-May. Walks were approximately 30 minutes each. The chart below contains data about the number of students who participated, their grade levels, and the amount of time they spent on walks (as of April 9<sup>th</sup>).

Student	Grade	Number of Weekly Walks	Total Walking Time per Student
1	1	4	27
2(F)	1	2	13.5
3	1	2	13.5
4	2	4	54
5	2	2	6 (starting Jan.)
6	3	2	10.5
7	3	2	13.5
8	3	2	13.5
9	4	2	27
10	4	2	27
11(F)	4	2	27
12	4	2	27
13	5	2	27

## Teacher Data

### Outdoor Time Feedback Form

The “Outdoor Time Feedback Form” was a qualitative tool used to collect teachers’ subjective reactions about their student’s behavior and performance in the classroom after they returned from a walk in the school woods. Teachers were able to use a rating scale to indicate their subjective observation of how their student’s performance or attentiveness may have changed compared to what they considered “average” for that student.

Additional information was collected on this form in a section where teachers could give a written explanation of their rating. They could also include other comments and observations they thought were significant. The form was designed to hold a record of eight walks and the teachers were given several copies of the form at the start of this project. A copy of this form can be found in Appendix C.

### Teacher Goal Sheet for Nature Time Outdoors”

The “Goal Sheet for Nature Time Outdoors” was written to capture the teacher’s expectations and assumptions about how a walk in nature would help their student in school. We wanted to understand the specific reason a teacher felt their student would benefit from this experience. It was also important to find out what the teacher hoped the gain or improvement would be for their student. This information could be compared to the research in the literature review to determine whether teacher’s ideas about time in nature were similar or different than the research shows. We also had our own assumptions about why this would benefit students and this was a way to find out how teacher’s reasons related to ours. A copy of this form can be found in Appendix D.

### Post Experience Teacher Feedback

The final piece of teacher data was a brief summary statement of what teachers felt were the results of this activity for their student. This was an open-ended question that was

given to them verbally by Mrs. G-I. These comments were necessary in order to find out if the teachers expectations were met, if their students benefited or not, or if they had other insights or ideas that would help us identify factors or variables that we had not considered before. We also wanted to know if they hadn't observed any changes or improvements in their student. When all of these comments were included with other results from the study they would help determine any necessary changes or new directions in any future program. The teachers wrote their responses on individual slips of paper and turned them in at the conclusion of the project in early May.

### Student Data

#### Nature Experience Initial Interview

The "Nature Experience Initial Interview" was a list of eight questions posed to students during their first few walks. Research information on the subject of children and nature has looked a lot at how children's connection with nature is formed and how this connection helps them in a myriad of emotional and cognitive ways. I wondered if the children in this study who expressed an affinity toward nature would do better in some ways than the children who didn't. Mrs. G-I asked these questions casually during their walks and recorded the answers later. A list of these questions can be found in Appendix E.

#### Post Experience Student Question

A final inquiry question that provided some exit information was "What did you like best about our walks?" Children's spontaneous responses were recorded. These responses were examined for themes to see if the children's evaluation of their experience was related to any of the themes found in the research, the teachers' data, or Mrs. G-I's anecdotes and reflections.

### Mentor Data

### Mentor Anecdotes

Anecdotes written by Mrs. G-I were used in the final data analysis. These stories provided some pictures of an individual student's unique response to their woods experience. The intent was to give us a clearer snapshot of how a student's direct experience in nature could have led to the observed results in the classroom. Themes that arose from Mrs. G-I's recall of significant events in a child's walk, could be compared and contrasted with themes from other data groups.

### Artifacts

#### Photographs of the Setting

Photographs of The Cambridge Elementary School Woods are documented in Appendix F and show examples of this natural environment and students out on their walk with Mrs. G-I.

## ***Data Analysis and Findings***

### Teacher Findings

Although teachers had good instincts that walks in the woods would be a helpful intervention; their reasoning for it showed a lack of specific knowledge about which

variables nature provided as opposed to other outdoor time or one-on one adult attention. Only two of the nine teachers identified nature as their primary reason for referral. The

Teacher Themes	Themes from Literature Review	majo
Transition Time Needs Adult Relationship Dispense Energy Energy Release Loves Outdoors One-On-One Attention (6) Overcome Aversion To Outdoors Increase Life Experience Provide Positive School Experience Trouble Attending in Class Negative Attitude Towards School Learn That Nature Makes One Feel Better Exercise Appreciation of Nature Increase Self-Esteem and Self-Control	Healing Effect Resilience Connection Contentment Buffer for Stress “Green Advantage” Reduces “Attention Fatigue” Cognitive Growth Greater Self-Worth Significant Other Adult Mentor: Joint Attention Adult Provides Access, Engagement and Caring	rity of reas ons were cent ered on one- on- one atten tion

and my assumption is teachers thought students would feel better and behave better after attention was given exclusively to them. In my experience as a school counselor, I concur with teachers that there are many reasons student’s are helped best when given individual attention. But this study’s purpose was to look at aspects of nature that could not be replicated in other school settings. And to look deeper at the role of the adult mentor as it relates to enhancing the benefits a connection to nature can have for students. But the literature review did provide a deeper understanding of the reasons this experience could be effective in helping students. The research showed that there really is a “green advantage” for children’s cognitive and emotional development. The following chart summarizes the similarities and differences between teacher’s reasons for referring students for walks and adult attention, and what the research review showed are the reasons this intervention works.

The original research question was to see if teachers would observe improved time on-task and/or calm behavior after their students took a walk in the school woods.

Below is a list of teacher comments regarding the results for their individual students.

Results show that this intervention was most effective in facilitating calmness in students and showed less consistent results for improved on-task behavior.

Student Grade	Student Number	Teacher Results
1	1	“Big impact on the way he started his day.”
1	2	“Returned calmer after each walk.”
1	3	Still trouble expressing thoughts, but liked his walks.
2	4	“Always helped his mood.”
2	5	“Less likely to seek negative attention.”
3	6	“He greatly benefited. Social skills blossomed as well as on-task behavior.”
3	7	“Gained self-esteem and

		pride in himself.” “It was a very special time for him.”
3	8	“Still trouble attending, but the walking experience gave him self-confidence and a feeling of success.”
4	9	“Was the most consistent positive time in the school day.”
4	10	“Benefited very much from movement and an outlet for his imagination.”
4	11	“Very positive experience, often helped with calmness and on-task behavior. Much improved since the beginning of the year.”
4	12	“Liked one-on-one attention and being outside Inconsistent in time on-task and calmness.”
5	13	“Coping with the day, helped get him through, really helped mood, don’t see him this happy this often.”

### Student Findings

The following table summarizes information gathered from each student's Initial Interview form and their response to the Exit Question, "What did you like about our walks?" I had wondered if we might see a difference at the end of the study between students who already had a good relationship with nature and those who didn't. However, the findings showed that whether students preferred nature or the indoors, they all reported that this was a positive experience for them.

<b>Student</b>	<b>Grade Level</b>	<b>Nature Experience Initial Interview</b>	<b>"What did you like about our walks?"</b>
1	1	Vague answers, sports related interests	"Taking a walk and seeing all the things we find"
2(Female)	1	Picked outdoors as her favorite place	"The woods makes me happy."
3	1	Preferred indoors, Structured playthings	"Yes, I did!"
4	2	Would rather be in the woods than anywhere else	"Seeing all the stuff and learning about nature"
5	2	Likes outdoors and the woods best	"Walking the trails and finding stuff"
6	3	Mostly indoors play, with computers and TV	Liked animal tracks, walking on the pond, " I really liked coming out here...helping make the world a better place."
7	3	Computer games, running around the yard in winter	"Learning stuff and planting stuff!"
8	3	Outdoor enthusiast	"I like everything about it."



9	4	Strong outdoor connection	"It's nice out here. It's never boring like in school. You always see stuff out here. Nature is never boring."
10	4	Likes to experience nature through touch and feel, tree house was his favorite place	"I like taking walks. I like seeing everything and doing stuff."
11(Female)	4	Doesn't like outdoors.	"Pretty much everything, I guess."
12	4	Has outdoors experience but prefers computers and TV.	"It's nice and quiet, and...you can look around and really see the place."
13	5	Strong outdoor connection	"The quietness."

### Mentor Findings

The following are some representative anecdotes that provide a sample of the observational data collected by Mrs. G-I throughout the school year. The anecdotes were written by Mrs. G-I. Based on what I have learned from the research review and data collection, I identified what I thought was each story's major theme. These themes can be found in the parentheses, in bold, at the end of each anecdote.

#### **Student 9**

Oct. 5, 2010 – "I feel just glad to be out here. Aahh, just listen to the nice sounds of nature, and the air smells good, and I just feel ...glad." - Spontaneous remark as we were putting a little protective fence around a baby oak. (**emotional resilience**)

March 15, 2011 "I could come out here everyday, or maybe just stay out here all day." When I asked why, his response was "well", out here you can think your own fascinating thoughts and you can do more interesting stuff."

( **cognitive development** )

A few moments before a flock of Sandhill Cranes had flown over. I had looked up and called out "Welcome back! I missed you." He said, "Why do you even care about those cranes?" I said "Well, we all live here in our world, together, and they have a long journey to make twice a year. When I see them leaving for the south each fall I wish them a safe journey. And when I see them come back in the spring,

like these today, I know they journeyed safely, and made it through the winter one more time, And I feel really glad for them,” He said “I knew you’d say something like that!” (**adult mentor, joint attention**)

### **Student 10**

Jan. 27, 2011 We went down to the pond area, where there is a large, flat, open space of snow (on top of the ice of the pond.) He had a stick in his hand and began experimenting with it, pressing patterns or “tracks” in the snow. Then he made tracks with his feet. Then he made snow angels. All this time he was getting happier and happier! Then he got down on all fours and shouted “I’m a bear!” and began moving along, making a wallowing sort of track. “See the tracks I’m making?!!” But pretty soon he was so joyfully into being a bear, making bear tracks that I disappeared! He no longer needed an audience....that pretend play made him really, really happy. (**stress buffer**)

### **Student 4**

March 23, 2011 - I think most adults (the teacher, the parents) think I am helping him by taking him on a walk where he can “release energy”. I don’t think releasing energy is what he is doing. I believe he is filling up with joy and delight, enough to last the day. He has an eye for noticing everything. It is a mixture of fascination, curiosity, knowledge and aesthetic pleasure. “Look at that mushroom! Isn’t that beautiful?!! Or “What’s this Mrs. G-I”. “A gall?” “What’s a gall?” “You actually mean there’s an insect’s egg inside here? What kind of insect?” ... I think the woods is where he feels the most himself, a lively boy with high spirits, who loves to explore, discover, look and find, in wonder and delight. (**cognitive growth**)

May 12, 2011 – “I wish I could stay out here all day!” He sighed as we headed back towards school. “I don’t get in trouble out here.” ( **attention relief**)

### **Student No. 6**

October 20, 2011 - He was charmed by the “magical” way the image of the leaf appeared while rubbing. He was not troubled by looking for the beautiful leaves to choose and use. He had an eye for beauty and wasn’t averse to reaching into the leafy forest floor to pick up just the right leaf. When he finished his own paper, he helped others to find pretty leaves – very sweetly and politely, using friendly words and voice. (**multisensory connection**)

November 16, 2010 – He displayed a kid-like spontaneity for the first time today. We went outside with no particular mapping project in mind. “Could we just take a walk and explore?” he asked, making a beeline for the big rock at the trail-head. He retrieved a stick (2’ long), flourished it making a fierce noise. “I’ve been pretending to be a medieval warrior!” he explained with obvious delight, flourishing the stick and making the noise. “Can we just take a walk today?!! “ So we did. He was more spontaneous than I’ve ever seen before. He was playful, and more curious about the

woods, touching moss and lichens, and asking questions about those lifeforms and others, just really observing, and noticing what was around him with clear delight. **(communication skills)**

November 18, 2010 – Another student and I were working on a brushpile during 3<sup>rd</sup> Grade morning recess. We noticed him, making himself a cozy, tidy, hide-away house at the edge of the woods! He was totally engrossed at the task, humming happily, arranging sticks, creating his own little woodland space. When he noticed us, he invited us in, welcomed us in, politely, and eagerly. He enjoyed our admiration of his work and his house, and invited us to visit him in the future, when it would be “fixed up a little better”. **(interpersonal connection)**

December 6, 2010 – I am noticing a big blossoming in this boy. He is personable in a way significantly different that he was just 2 months ago. For example, if he sees me out of context, he has something congenial to say. Once he came up and thanked me for an interesting article I had shared with his teacher, so she could share it with her students. Or he will ask a considered, thoughtful question about something out in nature. He initiates humor, understanding, puns, jokes (“mouse Highway I-94”, to describe a great many mouse tracks along a snow-covered log). He is finding great delight in the sheer beauty of the woods. I sense a relaxed openness to everything. **(emotional development)**

March 15, 2011 – As we went outdoors, his head was full of the newest computer game. He was talking about it non-stop, until a chipmunk scurried across the path just ahead of us. “Whoa!” he said, and thoughts of computer games flew away. We stood and watched as about 4-6 chipmunks played some very fast running-around game, in and out of hollow logs, brushpiles, dashing along logs, popping out of here and there. He was just enchanted. He sat on a log so calmly that a chipmunk ran as close as about 4 feet before turning around and scampering away. He was so delighted and amazed. “I didn’t ever know chipmunks could be so interesting,” he remarked as we walked back to school. **(focus/attention)**

May 17, 2011 – We were walking in the woods and he said “I heard a bird outside my house. It sounded like this: (and then he whistled a pretty good cardinal song!) So I whistled my cardinal whistle “sort of like that?” I said. “Well, yes! Say... you’re pretty good at that, Mrs. G-I. But I guess you would be...because you’re interested...right?” I said “Well you whistled a great cardinal song too. I knew right away what bird it was. You’ve got a good ear for bird songs, I think.” He felt really good about it. **(adult mentor access to learning)**

## **Student No. 7**

September 14, 2010 – We were working together picking up the clippings from shrubs. “You’re the onliest person who knows so much about plants,” he said. “Oh”, I replied, “I bet a lot of other teachers know about plants too.” “Well, you’re the onliest person who does it”, he said with his big smile. **(adult mentor access to learning)**

May 6, 2011 – This day he turned to a petite boy who is interested in the woods. “Would you like to come with us? We take a very nice walk in the woods today!” On our walk we noticed that the little oak trees he transplanted that fall (from trail to a safer site) were leafing out. “This is good news”, I said. “How come?” asked the boy. “It means they survived the winter. It means they’re alive and growing.” “Yes!” he exclaimed, pumping his arms in triumphant gesture; he was genuinely happy and proud. (**self-worth**)

### **Student No. 13**

October 15, 2010 – Spoken by a teacher who didn’t know that this student was taking regular walks in the woods: “Well, whatever works...to help kids, that’s great! Kids can change. Like (student 13): he’s a whole new kid this year! Last year, moody, wouldn’t cooperate, like ever! This year he’s cooperative, but it’s like he’s happier.” ( **emotional growth**)

### **Student No. 1**

September 23, 2010 - Turning over a log, we found quite a few snowbugs or “rolypolies”. “Are they mean?” He wondered.  
“Well, I think they are sweet, gentle creatures.”  
“Would they ever hurt me?”  
“I really don’t think so.”  
“I’m trying not to be scared of rolypolies. I’m trying not to be scared of stuff, could I hold one?”  
“Certainly you could.”  
“He wouldn’t be mean to me?”  
I don’t think rolypolies even know about being mean.”  
He lets one crawl onto his hand. Holding it very carefully: “C’mon little guy. You don’t need to be afraid of me!” (**confidence,trust**)

### **Student No. 2**

October 8, 2010 – When we went out for our walk, she settled down and went deep into a calm, imaginative space, designing a small “house” for a bug, with hickory-nut-hulls for chairs and tables, salad bowl with leaf-bits, and a berry and a “bunk

bed” with 4 posts and an oak leaf top bunk. She was talking to herself quietly throughout, humming a bit, and just calm, happy, busy, creative. A “daddy longlegs” walked into this space, and we both laughed. The time in the woods gave her a calm breather this morning. (**stress buffer**)

### ***Future Action Plan***

Possible future actions and/or possible future action research projects for Cambridge Elementary School, from Georgia Gomez-Ibanez

1. Regular walks in the woods should become part of the school day schedule for the children who most benefit from this experiential intervention.
2. Improving writing skills of elementary school students is a large goal at our school. First grade teachers often have their students write about their walk out in the woods the minute they come back to the classroom. And they have observed better writing, with larger vocabularies and clearer images and ideas, after such walks. It would be interesting to see if once-a-week 15-minute walks in the woods, fairly early in the morning, would lead to improved writing skills at 1<sup>st</sup> and 2<sup>nd</sup> Grade. Would it also lead to improved classroom behavior? This would be an excellent Action Research Project!
3. The current 2010-2011 2<sup>nd</sup> grade class is extra lively and often unruly because of an unusually high number of alpha-one males. It would be interesting to see if increased outdoor learning time as 3<sup>rd</sup> Graders, in the 2011-2012 school year, would be a healthy and helpful intervention for this group, which is also unusually bright and intelligent. Stewardship activities, woven into outdoor environmental lessons, would encourage citizenship and its responsibilities in these many “leaders”, and research activities, with all its problem-solving tasks, would work well with this intelligent, curious group. This too would make an excellent Action Research Project. Note: 2 of our 3<sup>rd</sup> Grade teachers

have taken the Earth Partnership class and are feeling more confident about outdoor learning, as well as being excited about it.

#### Possible Future Action Plan/Research, Sue Barry

1. Provide more information to teachers and other staff about how time in nature is so important for children's healthy emotional and cognitive development. One reason is to encourage them to use the outdoors more often for learning. Another is so they understand the key variables at work with the intervention discussed in this study, so it is implemented to its full effectiveness. Some teachers felt that the intervention was just as helpful indoors, as long as the student received individual, one-on-one attention. On bad weather days, Mrs. G-I found that one-on-one attention indoors was far less transformative for student's moods, attention, and attitude; especially with the older students.
2. Next school year we will have a new elementary principal and a new superintendent. I want to share this study with them and make them aware of what a valuable resource the school woods is and that the school can play an important role in using it for educational improvement.
3. It would be interesting to do a study around the character trait of self-confidence. My sense from everything I've learned about this intervention is that it had quite an influence on raising self-confidence. I believe that the knowledge acquired during walks, and while engaging in activities to take care of the woods, increased the students' feeling of competence.

#### ***Final Reflections - "The Woods Makes Me Happy"***

##### Reflections on Walking in the Woods with Children, by Georgia Gomez-Ibanez

Walking in the woods with "at-risk" children is not a new experience for me. Each year a child or two has been referred to me for this intervention. This year I have been walking with 13 children, two of them daily and the rest twice weekly, for a half-hour each walk.

For some it was welcome respite from challenging recesses, for others it offered a mini-vacation from the classroom. For a few it was a relief from anxieties; for others relief from “boredom”, sitting, desk-work. Some loved the quietness, and others loved the chance for conversation, many enjoyed seeing something new and unexpected. For one in particular it was the best way to begin the day, filling up with joy and delight.

I understand this. I am happy in the woods myself.

Each child seemed to experience some sort of calm replenishment. Whether that translated exactly into calm and on-task behavior classroom behavior I don’t know. But I feel certain that every one of these students experienced something beneficial during their time in the woods.

These particular children were variously moody, anxious, mad, distressed, preoccupied, sad or remote when I arrived to take them outdoors. These emotions came along for the walk too. But then something would happen. A bird would suddenly sing. A chipmunk would scurry along a log. A flower or beautiful leaf would be noticed, and the world changed for the child. The moment would allow the child to step out of himself, out of the tight box of emotion, and into the freedom and freshness of a new open consciousness. The woods allowed the child to be fully “in the moment”, to experience one of the lovely abilities of childhood.

Being fully present in the moment is both relaxing and refreshing. It is a balm to burdened minds and wounded hearts.

“At-Risk” students have many reasonable reasons to feel anxious, vulnerable and uncherished.

Time in the woods allows them to experience calmness, cheerful expectation, delight, joy and wonder. As they experience periods of genuine emotional well-being, they seem to recognize that they feel good in the woods. Such experiences may help them be resilient in tough times.

### Reflections on Walking in the School Woods

Rachel Carson believed that being in nature had a much deeper effect on humans than as a “way to pass the time” or “burn off energy.” In a recent interview, Richard Louv, the author of *Last Child in the Woods, Saving Our Children from Nature Deficit Disorder*, said that research is starting to show the rich rewards of spending time in natural settings.

Studies have shown that it increases the executive function capabilities in the brain; the area that helps us to learn self-control and “chart our own course”. Natural areas are the only places we can use all of our five senses at the same time. Walks in nature help our brains get “big picture ideas”. Louv went on to say that throughout history it has been shown that “great thinkers have attributed much of their creative thinking to long walks in the woods”.

Our Walking in the School Woods Action Research study has shed some light on the cognitive and emotional benefits that can come if we take advantage of our school woods for helping our

vulnerable students to be more successful in school. Although I didn't get every rating scale back from teachers for every walk, the majority of teachers rated their student's calmness or on-task behavior as better (4 and 5) after their student returned from their walk.

Natural areas are dwindling in our world. Our school is fortunate to have such a beautiful, natural setting so accessible to students. Our school is also fortunate to have Mrs. G-I as a mentor and leader in environmental education. It would be nice if this study could inspire more teachers, who would also be good mentors, to join her and thereby make it possible for our K-5 students to reap the rewards of this quiet, enriching environment.

## ***References***



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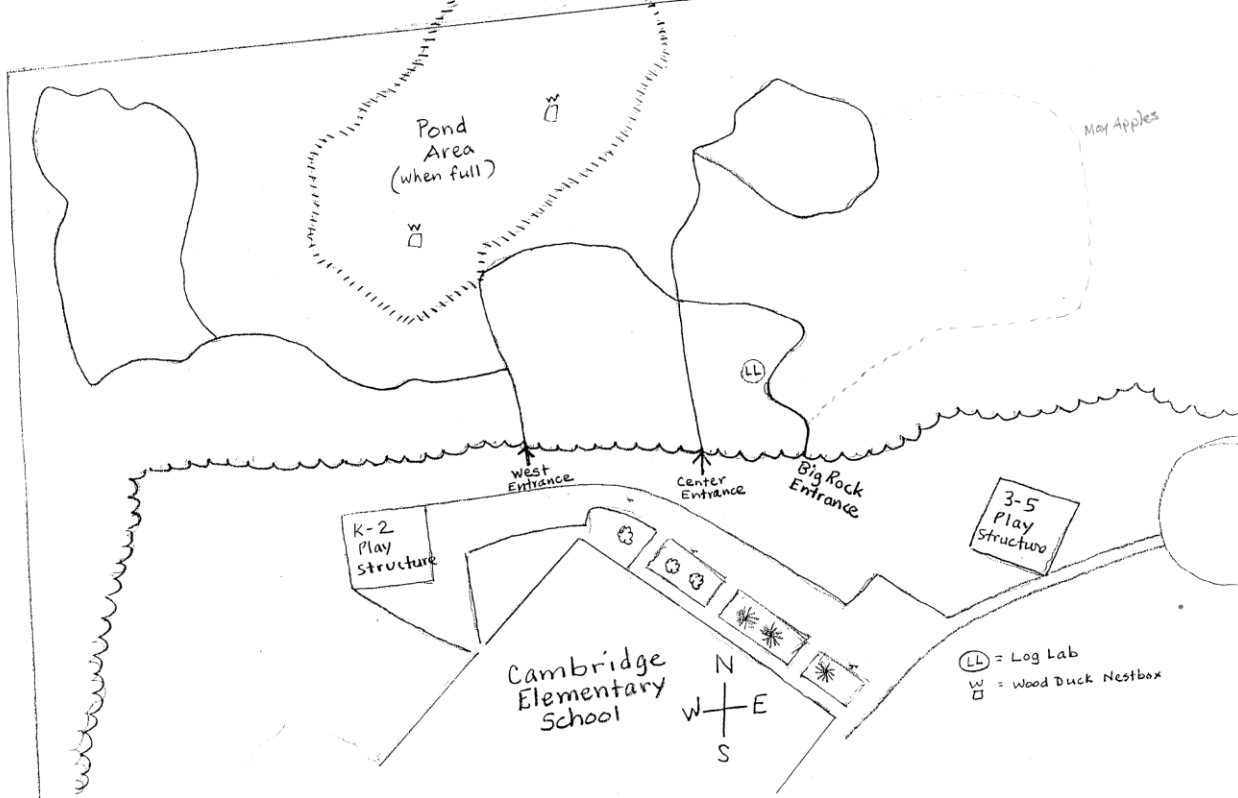
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## Appendix A

### – Map of the School Woods

## Appendix B- Letter to Teachers

8-31-10

To:	Cambridge Elementary K-5 Teachers, Student Services
From:	Sue Barry and Georgia Gomez-Ibanez

Georgia Gomez-Ibanez and I are working on a project that you may be interested in for some of your students this school-year. This project would provide an individual student with outdoor nature time in our school woods.

I am taking a course through the UW-Arboretum and the Earth Partnership for Schools. The course design is to research environmental methods and strategies that can be used as teaching and learning tools. In our case, we would like to use the Cambridge Elementary School woods to positively effect student classroom behavior. We would be asking this question: "Can time outdoors in nature help at-risk students to moderate their behavior and improve their time on-task in the classroom?"

In my early readings on the benefits of outdoor time in nature, I have learned about studies that have shown evidence of nature's positive effects on feelings, thoughts and actions. Time in nature has been shown to increase focus and the capacity to pay attention, and enables the ability to think more clearly. Nature reduces negative stress and anger, and promotes calmness and positive emotions. It relieves mental fatigue and frustration and improves the quality of work. It has even been shown to increase self-esteem and problem-solving skills.

Georgia is graciously willing to help me with this and take some of your students outside for "nature time" so we can observe whether this will have a positive effect on your students' behavior and on-task time in the classroom. The schedule and frequency of these walks in the wood would be entirely determined between you and Georgia. For the fulfillment of the class requirements, I would like to collect some information from you that I could use for a final report that will be due in May, 2011. I will make this simple so it doesn't take much of your time. And all student information will remain anonymous.

Furthermore, Georgia will be individualizing these "nature walks" according to the needs of each student. In general, walks could fulfill a student's need to 1) observe, explore, quiet the mind; 2) provide the opportunity for stewardship and the good feeling that comes from working and taking care of the woods; and 3) provide research topics for students who relax best by working on a project of interest.

If you would like to have any of your students participate in this activity, please contact Georgia after school starts. If you have questions or ideas about how this would work best for you or your students, please let Georgia know or send me an email at [sbarry4194@charter.net](mailto:sbarry4194@charter.net). I'd be happy to talk to you and I wish you a good 10/11 school year!

Thank you.

Sue Barry

cc: Diana Freye, Elementary Principal

## Appedix C – Outdoor Time Feedback Form

### Outdoor Time Feedback Form

Student \_\_\_\_\_

Teacher \_\_\_\_\_

**Teacher Instructions:** After your student has returned to class, please circle a number between 1 through 5, with 5 signifying most “calm” or most “on-task”; and 1 signifying least “calm” or least “on-task” in comparison to their average performance in the classroom. Record the date.

Optional: Use the space provided for observations, anecdotes, comments, student quotes, or anything else you think is relevant. Thank you for your time.

Date	Calmness Scale observations, other	On Task Scale	Optional: comments,
	1- 2- 3- 4- 5	1- 2- 3- 4- 5	
	1- 2- 3- 4- 5	1- 2- 3- 4- 5	
	1- 2- 3- 4- 5	1 -2 -3- 4- 5	

	1 -2 -3- 4 -5	1- 2 -3- 4 -5	
	1 -2- 3- 4 -5	1 -2- 3- 4- 5	
	1- 2 -3 -4- 5	1- 2- 3 -4 -5	
	1- 2 -3- 4- 5	1 -2- 3- 4- 5	
	1- 2- 3- 4 -5	1 -2 -3- 4- 5	

## Appendix D – Goal Sheet for Nature Time Outdoors

### *Goal Sheet for Nature Time Outdoors*

Student initials: \_\_\_\_\_

Grade: \_\_\_\_\_

Sex: \_\_\_\_\_

Age: \_\_\_\_\_

Dear Teachers,

We'd appreciate it if you would complete the following two statements. Thank you for your time!

- 1. Write a brief statement describing the reason you thought your student would benefit from weekly outdoor walks.**

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- 2. What academic or behavior goals did you hope regular time in nature could help your student achieve?:**

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Note: All personal student information will be kept confidential. Information in the final report will be used solely to analyze how time outdoors during the school day can be utilized in enhancing students' overall academic, social and emotional development. Participants in photographs of outdoor activities will not be identified. The final report will be shared only in the context of the Action Research class. 3/14/11 Barry, Gomez-Ibanez - Environmental Action Research Project

9/3/10 Barry, Gomez-Ibanez – Environmental Action Research Project

## Appendix E – Nature Experience Initial Interview

### Nature Experience Initial Interview

Student's Name\_\_\_\_\_

Grade\_\_\_\_\_

Teacher\_\_\_\_\_

Where's your favorite place to play?

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What do you like to do there?

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What's your favorite outdoors place? Why?

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What's your favorite thing to do outdoors?

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How do you feel outdoors?

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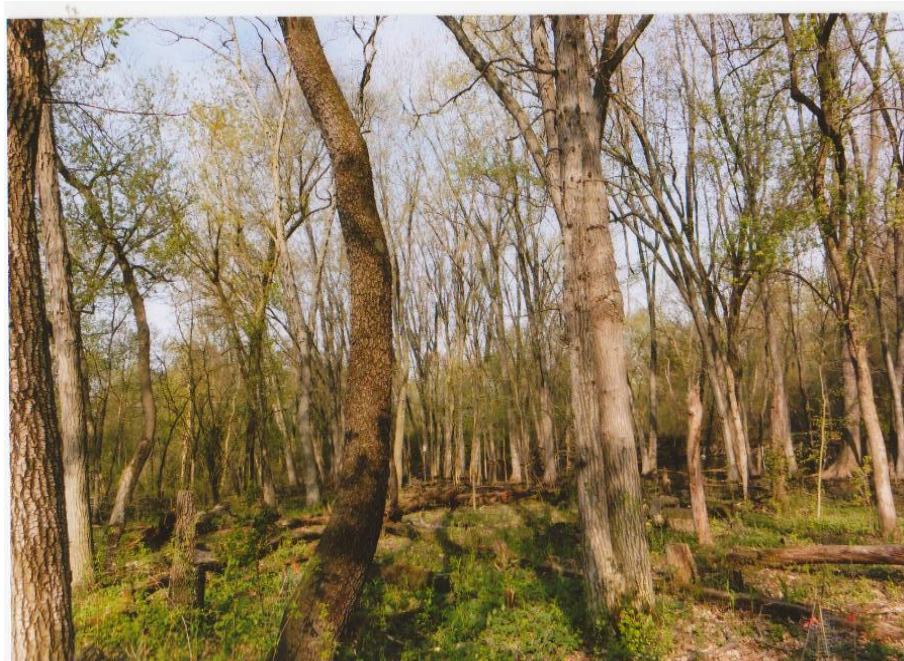
Who, if anyone, is with you in your favorite outdoors place?

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9/2/10 Barry, Gomez-Ibanez - Environmental Action Research Project

## Appendix F – Photographs









**Mrs. G-I**





